

# User manual



Twinny



Twinny Plus



Kivo



Kivo tricycle



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## Conformity

Van Raam declares as manufacturer that the Tandem bicycles have been produced in accordance with the 93/42/EEC guidelines.

## Introduction

This user manual gives important and necessary information about the use of your tandem bicycle. We ask you to go through the manual thoroughly before using the bicycle.



**READ  
THOROUGHLY**

## Delivery

- bicycle with possible packaging
- user manuals (s)
- possible charger (s), depending on options

## Intended usage

The tandem bicycle is designed for normal use on a level and solid surface. The usual bicycle caution should always be taken into consideration. At the same time all safety instructions as described in this manual should be complied with explicitly. Also the local traffic rules should always be complied with.

All other use, including damage or physical injuries due to this, are not the manufacturer's responsibility.

## Safety measures

- There should **always** be a responsible supervising person as the main driver of the bike. This main driver is **always** responsible for the safe use of the bike.
- Please take care when driving downhill and in tunnels, so that no dangerous speed develops. Brake in time.
- If an electric motor is present on the bicycle: familiarise yourself with the functions of the electric motor. Always pay attention when you turn on the motor and do not be surprised by the sudden behaviour of the electric motor. There is a reversing feature present on the Twinny Plus and Kivo tricycle. Practice the reverse function! Please be careful not to switch on the reverse function of the electric motor inadvertently.
- Please ensure you check each time before the bicycle is used, the bike must be in good condition. Before **each** ride, check that the operation of the brakes is working correctly, the lights are functioning well, and make sure there is enough air in the tires.
- Regularly check the wheels, and ensure that the handle bar and the seat is fixed tightly and also that all screw connections are tight enough.
- Only use the bicycle on a **solid and level surface**.
- Make sure that wide trousers or lose hanging clothing don't get caught in the chain, spokes or pedals.
- Do not use a pressure washer or a steam cleaner for the cleaning of the bicycle.



**Extra attention** is essential if a child is using the bicycle!

- **Never** leave a child alone with the bicycle without supervision!
- **Always** have the child wear a bicycle helmet! Make sure the helmet fits correctly!

## Load

The maximum load should not be exceeded. See information in the index of technical details on page 25. By permitted load we mean the total load, including the load on the luggage rack.

Make sure that the permitted load on the luggage rack is not exceeded.

## Damaged or worn out parts

The replacement and repair of parts (frame, forks, illumination, brakes, drive mechanism and the handle bars) should **always** be performed by a dealer. If not, the guarantee ceases to be valid and you will be personally responsible in the event of possible damage.



Specific safety parts should **always** be replaced by new parts!

## Delivery inspection

Check the delivery immediately after receiving it. In the event of damage or incomplete delivery we ask you to contact your dealer immediately.

## Adjustment of the bicycle

Before using the bicycle, adjust it to the measurements of the cyclists. This is of great importance, especially the saddles and the handlebars.

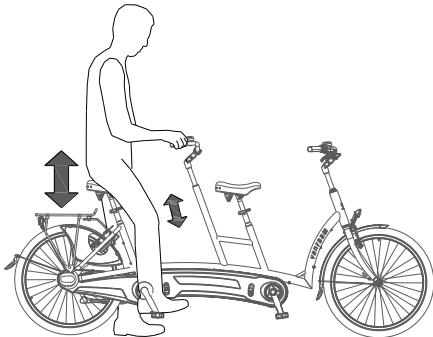


*If an optimal adjustment of the bicycle, as defined in the instructions, is not possible, you can contact your dealer for a fitting solution.*

The brakes are correctly adjusted as standard and can only be adjusted by the dealer during periodic maintenance.

## Saddle height

When the cyclist is sitting on the bicycle and can put a foot on the pedal in the lowest position, the saddle height is correct. Adjust the saddle height in such a way that the leg is stretched but relaxed in that position.



To adjust the saddle:

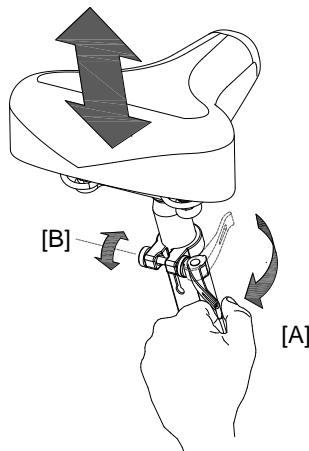
1. Open the quick-clamp [A].
2. Slide the saddle to the correct height.
3. Close the quick-clamp.



*Make sure clothing cannot get caught in the clamp!*



*If the clamp closes too easily, the clamping force is too low. In this case, open the clamp and tighten the nut (B) a bit more. If a lot of force is necessary to close the clamp, the nut should be loosened slightly.*



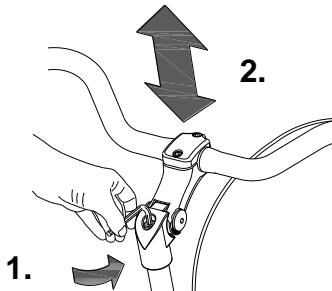
**Do not** pull out the saddle pin **further** than the marking. The tube will not go into the shank deep enough and will risk coming off. This can lead to serious injuries.

## Handle bar height

The height of the handle bars affects the comfort of the ride. It determines the pressure on the hands and the position of the back. Determine your own most comfortable height by using the bike.

To adjust the handle bar:

1. Loosen the screw with an Allen wrench a few turns.
2. Slide the handle bars to the desired height and tighten the screw firmly again.



Do **not** pull out the handle bars **further** than the mark. Otherwise the tube will not be deep enough in the shaft and will risk coming off, which can lead to serious injuries.

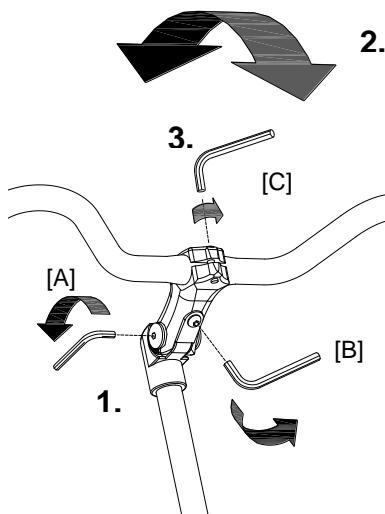


## Position handle bars

You can tilt the handle bars. This influences the distance from the handle bars to the upper body. Determine your own most comfortable position by using the bike.

To tilt the handle bars:

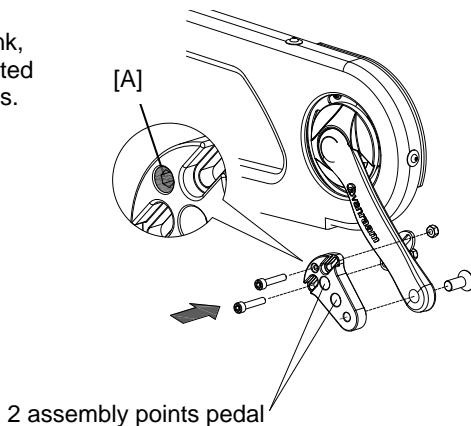
1. Loosen the screws [A] and [B] with an Allen wrench a few turns.
2. Place the handle bar in the wanted position and turn the screws tightly again.
3. Turn screw [C] with an Allen wrench a few turns. Place the handle bar in the correct position (straight) position and fix the screws tightly again.



Depending on your order, you can use the accessories as described below.

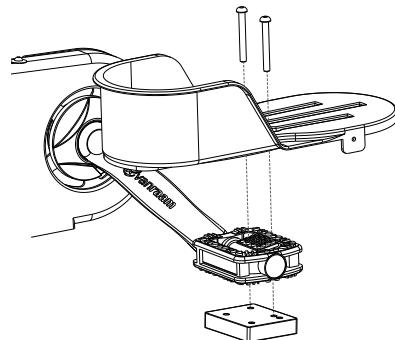
### Crank shortener

The crank shortener is fitted to the crank, as illustrated. The pedal can then be fitted into the crank shortener at two positions. With the socketed screw (A) the crank shortener should be aligned with the crank.



### Foot support

The foot support is fitted to the pedal with a balance block. First the pedal spreader must be adjusted.

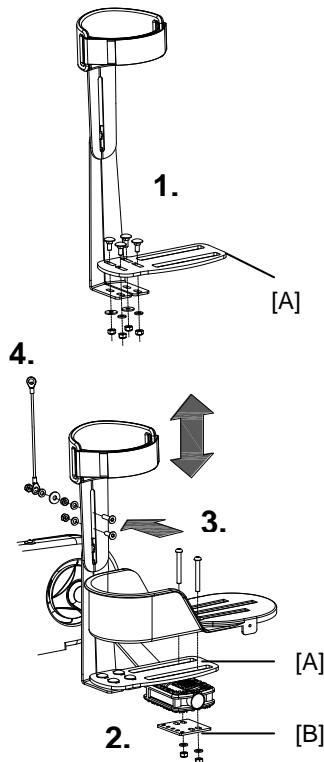


## Lower leg support

To fit the lower leg support:

1. First fit the lower leg support to the metal plate (A).
2. The lower leg support is then fitted to the foot support. Make sure that plate (B) is under the pedal and plate (A) is between the pedal and the foot support.
3. Adjust the height of the lower leg support in such a way that it matches the lower leg of the cyclist.
4. Fit the elastic to a point on the frame, so that the lower leg support stays upright in stationary position. Determine by yourself which point is best.

Use the velcro to secure the lower leg.



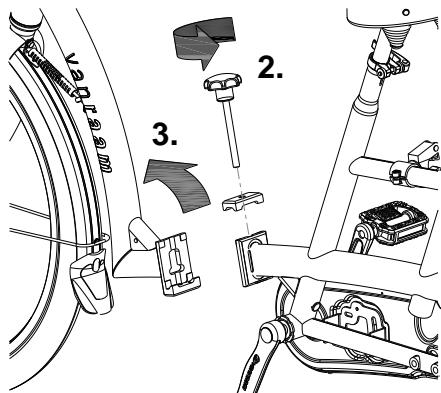
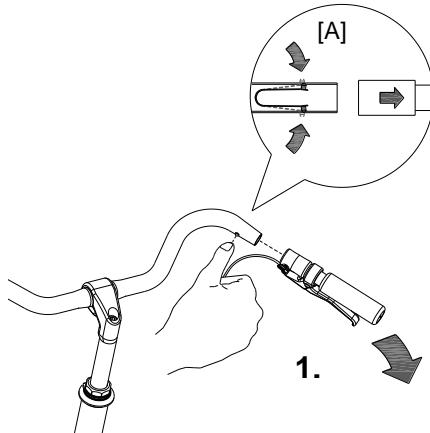
## Optional dividable frame (not a standard option with the Kivo)

The bicycle can be divided into 2 parts.

To divide the frame:

1. Put the bicycle on the standard and remove the grip from the handle bars. Push the pellets of the small spring (A) so that the grip can be removed from the handle bars.
2. Loosen the knob.
3. Remove the front part out of the coupling.

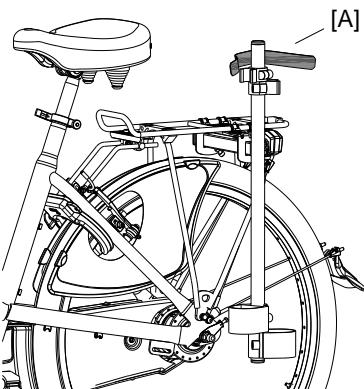
To assemble the bicycle again, follow these steps in reverse order.



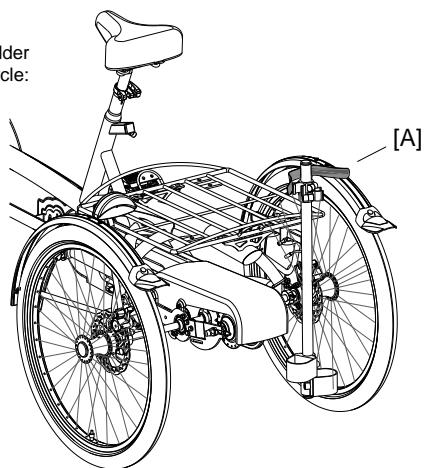
### **Walking-stick holder**

The walking-stick holder is fitted under the luggage rack. The walking-stick should be fastened with velcro (A).

Walking-stick holder  
Twinny and Kivo:



Walking-stick holder  
Twinny Plus and Kivo tricycle:

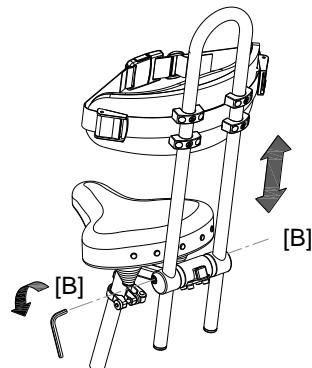
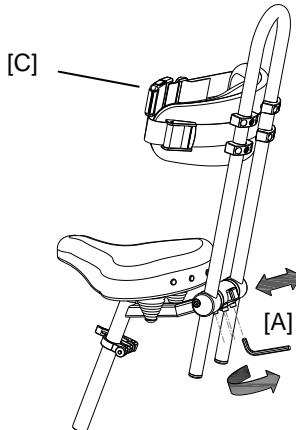


## Back support

Set the correct depth, by loosening the four bolts [A] with an Allen wrench, moving the handrail to the correct position and then tighten the screws again.

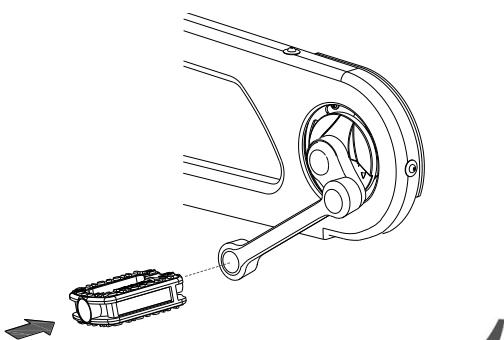
Then set the correct height by loosening the two bolts with an Allen wrench [B] so it can turn, shift the arms into the correct position, and then tighten the screws again.

The back support can be fitted with a belt (C). Use the fastening device to open and close the belt.



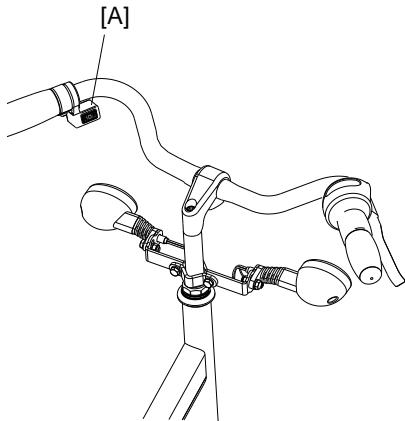
## Eccentric crank

The bicycle can be fitted with an eccentric crank on the left and/or right side.



## Flashing light system

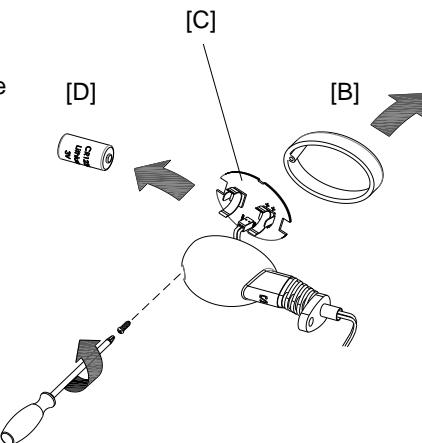
To use the flashing lights press the switch to left or right.



The turn indicators work on batteries located in the two front lights.

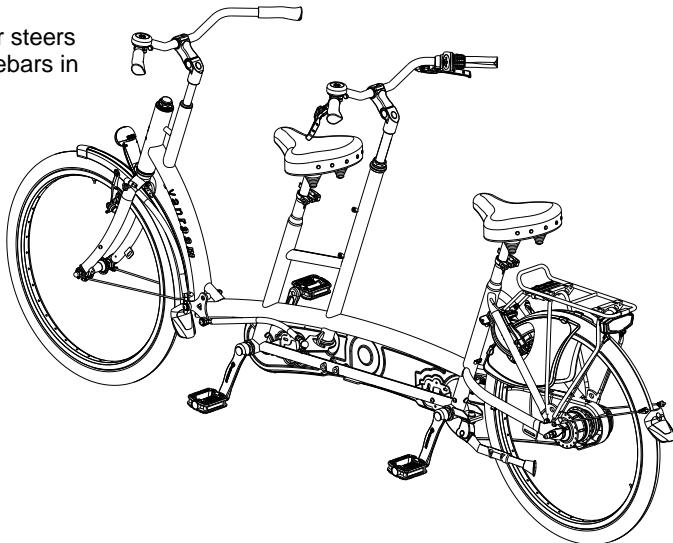
To replace the batteries, turn the screw on the cap and take the orange cap [B] away. Then remove the PCB [C] from the holder. You can now replace the battery [D].

This is a 3-volt lithium battery, CR123A.



## Rear steering

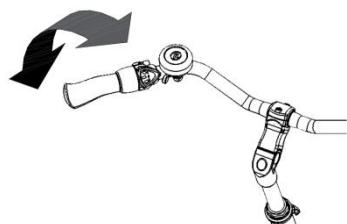
The person in the rear steers the bicycle, the handlebars in the front are fixed.



## Speed hub co-driver

The main driver can adjust the co-biking of the co-driver with the speed hub. There are two positions:

1. The pedals of the co-driver are moving together with the pedals of the main driver. The co-driver has to cycle also.
2. The pedals of the co-driver move independently of the pedals of the main driver. The pedals move free and the co-driver can not cycle.



When steering from the rear, there is a third position. In that position the pedals of the co-driver move independently of the pedals of the main driver. The co-driver can cycle along independently.

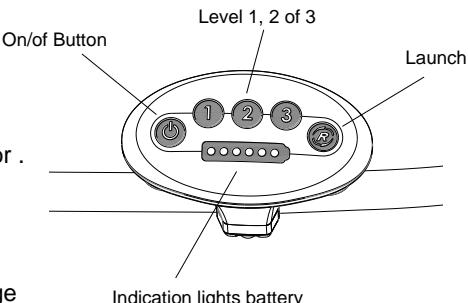
## Silent Electric motor

The Electric motor has the following Functions:

- Pedal assistance while cycling
- Launch control
- Backwards pedaling with assistance  
(only Twinny Plus and Kivo tricycle)

Press the on/off button to turn on the motor .

After the system is turned on, the electric motor is active in level 1.



Level 1 provides light support. Level 3 provides optimum support. You can change the level while cycling.

The engine has launch control. This allows the driver to accelerate without pedaling up to a speed of 5 km/h. To accelerate, press the launch button and keep it pressed down . The motor is activated after 2 seconds. After about ten meter this is disabled.

The reverse gear is activated by pedalling back from a standing position. Within a few seconds the motor is activated and the tricycle cycles at a speed of about 3km/h backwards when you start to pedal backwards.



Do not be surprised by the sudden behaviour of the electric motor.  
For example, if you wait at a traffic light and the pedals run backwards by accident, the reverse function can be activated and the bike could move backwards!

With the on/off button, you can turn off the system. When the system is not used, it will automatically turn off after a certain time.

You can see the battery level at the indication lights at the coloured display. If only the red light is on, the battery is almost empty and needs to be recharged or replaced by a new, fully charged battery.

When the last red light flashes, the battery is empty and the engine will not support you any longer while cycling.



*When not using the electric motor for more than a few days, the battery goes into sleep mode. This protects the battery. You can cycle a little, so that the system comes out of sleep mode. You can then press the on/off button to turn on the system out of sleep mode. If the bike fails to ride for some reason, you can charge it for a few seconds to connect to a battery.*



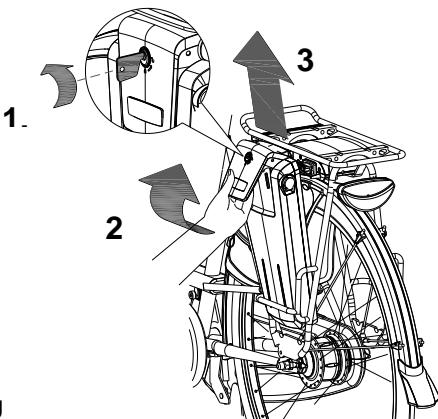
*Switch the system off if you walk with the bike.*

## Charging the Battery:

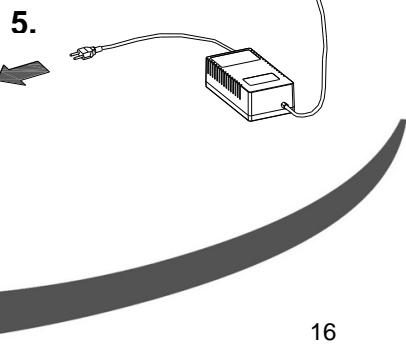
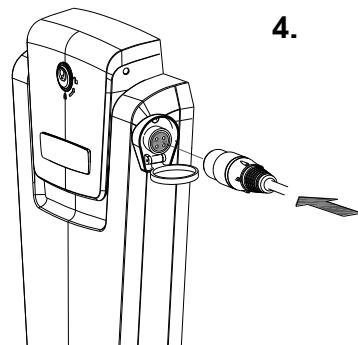
For the best performance and to prolong the life of the battery, we recommend that you charge the battery at home at room temperature.

Twinni en Kivo:  
To charge the battery:

1. Open the little lock by turning the key a quarter (to the right)
2. Pull the handle forward.
3. Take the battery out from the holder.
4. Take the battery pack into the house. Plug the charger into the plug contact of the battery **first**.
5. **Then** connect the charger plug into the socket. The red light on the charger will light up.
6. Depending on the battery level, the charging time is about 1,5 hours. If the green light is on, the battery is fully charged.
7. Once the battery is charged, pull the plug from the socket **first**.
8. **Then** pull the connector from the battery.



When charging the battery, **first** connect the charging point and **then** insert the plug into the socket!  
After being charged, **first** disconnect the socket and only **then** remove the charger from the battery!

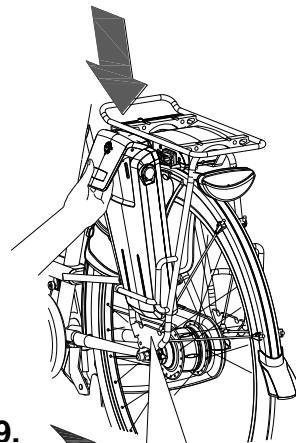


9. Place battery back in the holder shaft [A]. Press the opening underneath the battery, and firmly fix it on the strip [B].
10. Lift the handlebar up and press the battery into the controller from above.
11. Close the handlebar and lock it.

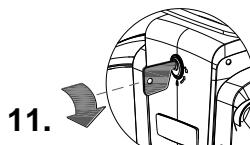
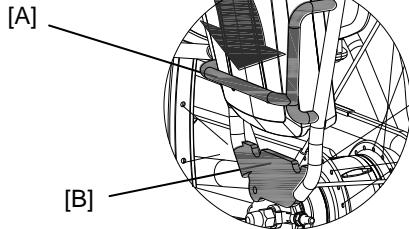
It is also possible to charge the battery while it is still in the holder.



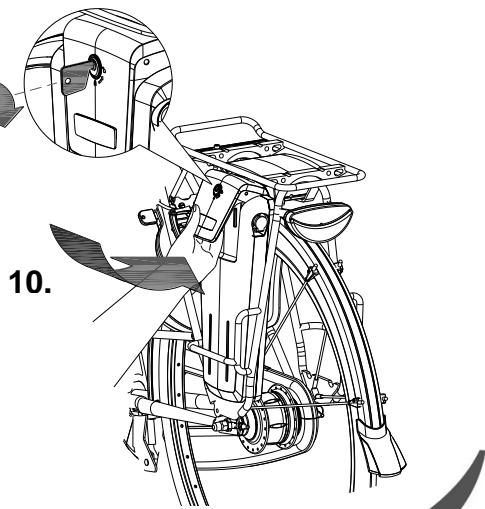
**Caution!** Do not disconnect the charger for the bikes.



9.



11.



10.



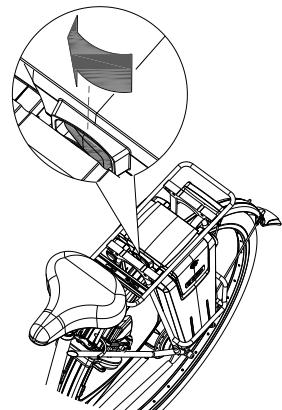
Note! The switch (see illustration below) should always be pressed to the side where the battery is.

#### Backup battery (optional)

The bike can be supplied with a second battery. When the battery is empty you can switch to the reserve battery.

Press the switch under the carrier to the right, to enable the battery on the right.

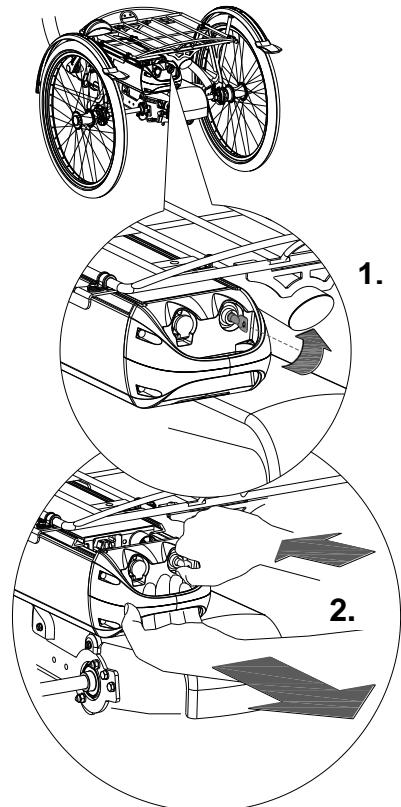
By switching the switch on the left, the left battery will be enabled again.



## Twinny Plus and Kivo tricycle:

For optimum condition and capacity of the battery, we recommend that the battery be charged at room temperature. To charge the battery:

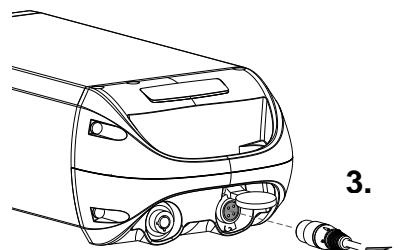
1. Open the lock a quarter turn of the key.
2. Press the lock and pull the battery from the holder at the same time.
3. Take the battery inside. Plug the charger into the charging point of the battery **first**.
4. **Then** insert the plug of the charger into the socket. The red light on the charger lights up.
5. Depending on the battery status, it should usually charge within 4 hours. When the green light lights up the battery is fully loaded.
6. When the battery is full, please take the plug out of the socket **first**.
7. **Then** remove the battery from the charger.
8. Put the batteries back in the bikes holder and close the lock.



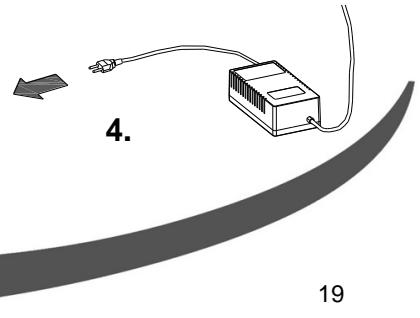
Alternatively, the battery can also be charged directly in the holder.



When first charging the the battery **first** connect the charger and **then** the plug into the socket!  
Once charged, disconnect the plug from the outlet **first** and **then** disconnect the charger from the battery!

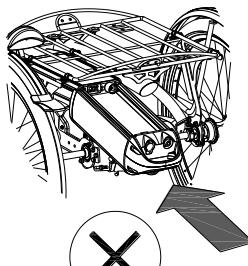
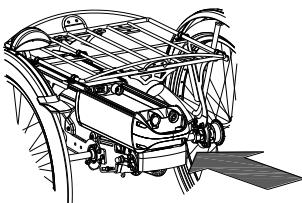


**Caution!** DO NOT forget to disconnect the charger from the bike.





Slide the battery **straight** into the slider, **not diagonally**.

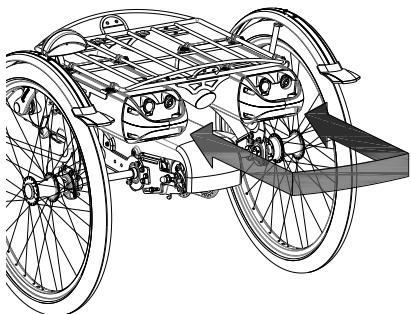


Spare Battery: (optional)

The bicycle can be delivered with a 2<sup>nd</sup> battery. Once the connected battery is empty, you can replace the batteries.

If required, you can get other battery from the holder in the meantime, to charge the main battery.

There is a battery holder connected to the system, recognizable by the cables.



**Caution:**

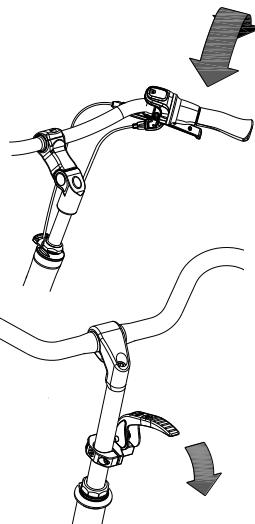


- We recommend charging the battery at room temperature
- Charge the battery until the green light goes on.
- **Never** interrupt the charging process.
- It is better to charge the battery when it is almost empty.
- It is harmful to the battery when the bike is stationary for more than 2 months. In this case charge the battery occasionally.
- The cover of the charger must not be opened by the buyer. In case of problems, go to your dealer!
- Use the charger only in non-humid, indoor areas.

### Gears

Your bicycle has 8 gears.

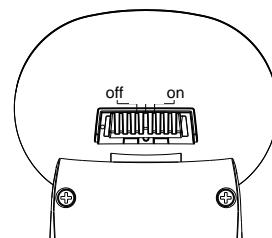
The gears are used by turning the grip. **Do not use the pedals** when turning the grip.



### Parking brake

Always use the parking brake if you park the bicycle and leave it behind.

If you are using the Twinny Plus and Kivo tricycle, use the parking brake when you get on or off the bicycle.

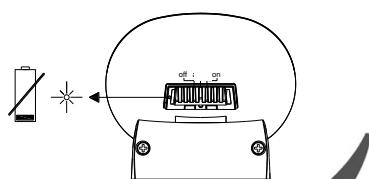


### Headlight

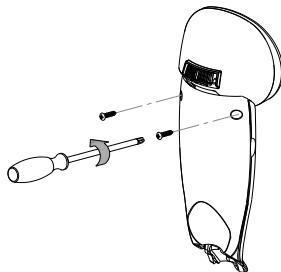
The headlight has a switch (slider) 2 positions:  
**Off-On.**

### Replacing batteries

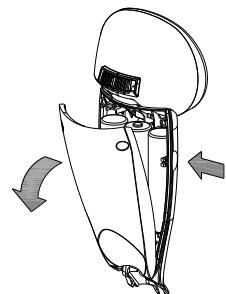
The headlight works on batteries. When the batteries are almost empty, the headlight starts flashing a red light. Follow these steps to replace the batteries.



1. Remove the two screws at the back side of the front light.



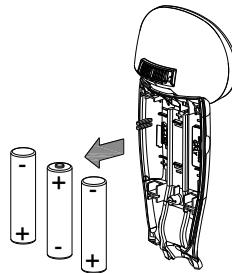
2. Remove the rear cover by using your thumb and index finger on the spot of the cavity in the side of the front cover by pressing on it.



3. Replace alkaline batteries (1.5V - 1500mA) and replace the rear cover.



*Batteries cause pollution.  
Always follow the local disposal  
rules.*



### **Setting up of headlight**

Adjust the angle of the headlight so that the centre of the light beam is approximately 10 meters in front of the bicycle.



## Rear lights

The two rear lights have an on/off switch that allows you to set **Auto-On-Off**.

The settings are as follows:

Press **once**: light is on

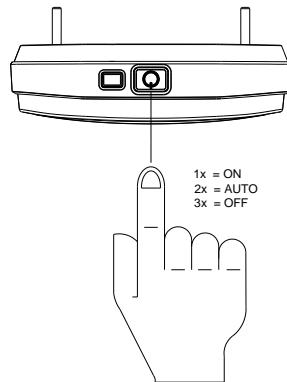
Press **twice**: light is automatic

Press **three times**: light is off

In the "On/Off" mode, the taillight can be switched on or off manually.

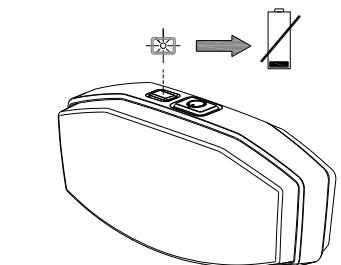
In the "Auto" mode, the taillight automatically goes on and off using light and motion sensors. If there are more than

4.5 minutes when no movement is detected, the light goes off automatically.

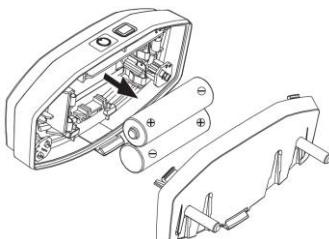
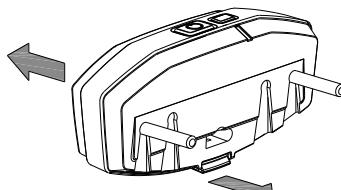


The taillight is battery operated. When the batteries are almost empty, a red light flashes on top of the rear. Follow these steps to replace the batteries

1. Remove the cap from the holder by pressing the tab in the bottom.



2. Replace alkaline batteries (1.5V - 1500mA) and replace the rear cover.



*Batteries are cause pollution.  
Always follow the local disposal  
rules.*

## Check before every ride:

- the brakes (including the parking brake)
- the tyre pressure
- the illumination
- that all parts are secure
- that the battery is fully charged (optional)

Contact your dealer and do not use your bicycle if you identify any irregularities!

As with all mechanical parts, the bicycle is subject to wear and tear and high loading. If a component fails, it can lead to very dangerous situations. This can lead to damage or injuries to the user of the bicycle. Any form of cracks, scratches or change of colour in load bearing parts of a component indicates that the component must be replaced.

## Important safety points for the cyclist

- Go very carefully during the first ride.
- When riding the bicycle hold both hands firmly on the handle bars and feet on the pedals.
- Test the riding style of the bicycle on rough ground at moderate speed. This way the cyclist learns how to react to unexpected movements of the bicycle and the handle bars during use.
- Small obstacles should be cycled over with appropriate speed.
- Obstacles higher than 5 cm should be avoided.

## Extra safety points for the Twinny Plus and Kivo tricycle



The tricycle gives a very different ride experience than a bicycle with two wheels!

Practice, in particular, with bends and braking, because a tricycle can react contrary to what you would expect. It may happen that the back wheel comes off the ground on the inside when going round a bend. To avoid this the rider leans towards the inside of the bend with his body.



If there is an electric motor on a bike: you must train with the acceleration function and reverse functions. Be careful that the acceleration mode or reverse mode are not unintentionally started while using the bike, For example, at traffic lights the reverse function can accidentally be activated and the bicycle reverses, Be careful.

## Technical details

|                             | Twinny                         | Twinny Plus                    | Kivo                           | Kivo driewiel                  |
|-----------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| Frame height (cm)           | 53                             | 53                             | A 53 V 30                      | A 53 V 30                      |
| Length (cm)                 | 259                            | 261                            | 244                            | 246                            |
| Width (cm)                  | 66                             | 75                             | 66                             | 75                             |
| Boarding height (cm)        | A 44 V 37                      | A 45 V 37.5                    | A 43 V 36                      | A 45 V 36                      |
| Front wheel                 | 26"                            | 26"                            | 20"                            | 20"                            |
| Back wheel                  | 26"                            | 24"                            | 26"                            | 26"                            |
| Weight (kg)                 | Ca. 35 kg                      | Ca. 45 kg                      | Ca. 38 kg                      | Ca. 48 kg                      |
| Max. load luggage rack (kg) | 20                             | 20                             | 20                             | 20                             |
| Total max. load (kg)        | 260                            | 260                            | 240                            | 240                            |
| Brakes, front               | Hand brake                     | Hand brake                     | Hand brake                     | Hand brake                     |
| Brakes, back                | Hand brake or back-pedal brake |

## Maintenance and adjustments to be done by owner

Below you can find the instructions for maintenance and adjustments that you can do yourself on a regular basis, which will keep your bicycle in top condition.

### The correct tension of the chains

There are two chains on the bicycle. The chains should not be too tight. They should hang loose. Without effort you should be able to move the chain up and down, half a centimetre approximately.

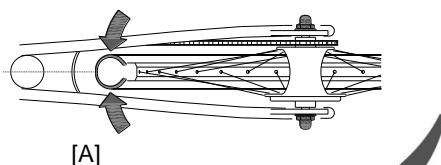
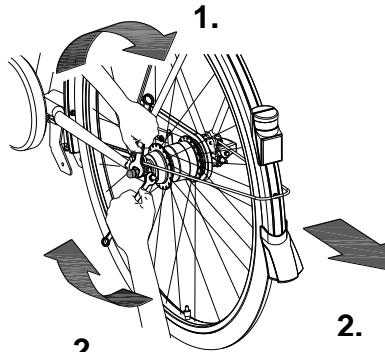
Chain Twinny en Kivo:

To keep the chain tension correct, the back wheel axle is adjusted. Follow the instructions below to adjust the chain tension:

1. Slightly loosen the nuts of the back wheel axle, so that the back wheel can move backwards and forwards.
2. Tension the nuts on the two chain-tensioners, so that the wheel slides backwards and the chain gains tension. Do this in such a way that the chain hangs loosely, like described earlier.

**Note:** Tension the nuts the same amount of turns, so that the wheel is straight and positioned in the centre of the frame, as illustrated. Not to the left or right, see figure (A).

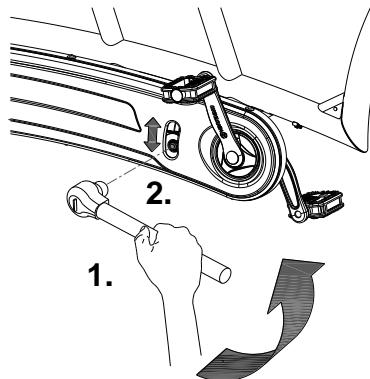
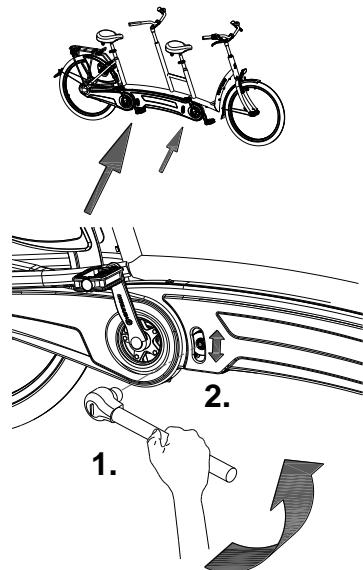
3. Slightly tighten the nuts of the back wheel axle.
4. Check whether the chain tension is correct and whether the wheel is straight and in the centre of the frame.
5. Tighten the nuts thoroughly.



Chain Twinny (Plus) and Kivo (tricycle):

To keep the chains on the front of the bicycle tight, secure two chain tension wheels on the bike. Follow the instructions below to adjust the chains to the correct tension so the chain tension wheels do not become loose:

1. Loosen the cap nut a few turns.
2. Move the chain tension wheel, so that the chain is under light tension, as described above.
3. Tighten the cap nut again.



## Cleaning

The frame of the bicycle can be cleaned with a damp cloth. For lightly soiled areas, you can use a mild detergent. The wheels can be cleaned with a damp brush with plastic hairs (not a wire brush!) The grips and the saddles can be cleaned with mild soap and water.



Do not use a pressure washer or a steam cleaner!

## Inspection of the bicycle

After 200 kilometres or after a period of 2 months the bicycle should be inspected. Check the brakes, the illumination and the spokes. Also check the tyre tread depth. This should be at least 1 mm. Worn out tyres or possible faulty parts should be replaced.

Also check the parking brake. With the parking brake pulled up, the bicycle should not ride away with the cyclist.

## The right lubricant

The chains should be cleaned and maintained at regular intervals (every 3 months approximately). Only use special chain grease or Tevlon spray. This is the only way to make sure that the chain will run smoothly, will stay water resistant and will not rust. Wipe the chain with a cloth, treat it with grease or spray and remove any excess lubricant with a rag. Other parts should not be treated with a lubricant.

## Checking the rim

Due to the combined action of the brake and the rims, not only the brake lining but also the condition of the rim is important. For this reason the rim should be checked at regular intervals, for example when you inflate the tyres. The presence of fine cracks in the spoke punches or deformation of the rim when there is higher air pressure, indicate more serious wear and tear. In that case the rim should be replaced, because it can lead to loss of brake function or even.

## Repairs and maintenance to be done by dealer

It is recommended that the bicycle has a yearly inspection carried out by the dealer. In the event of technical trouble or faults, the bicycle should be taken to the dealer for repairs **immediately**.

The replacing of safety-related components (especially frame, brakes, illumination, handle bars, front fork and actuation) should be performed by the dealer.

If you still decide you want to replace components yourself, you are responsible for damage or harm due to incorrectly fitted components.

Only use **original** spare parts, which you can buy at your dealer. If requested the dealer will make the necessary information on repair and maintenance available.

## Disposal

If you want to dispose your bicycle, contact your dealer. You can also contact the local waste disposal company. They will dispose the bicycle according to the regulations of your town.

## Handover/sale to a new owner

When you hand over your bicycle to a new owner it is important that you also hand over all necessary technical documentation so that the new owner can use the bicycle safely.

## Guarantee

The guarantee is valid for all faults in the product, which are proven to be caused by material or manufacturing error.

For our bicycles we give a guarantee of 5 years on the frame and the front fork. For the paint, all accessories and other parts (except wear parts) we provide a 2 year guarantee, as legally regulated.

### **Beware!**

The guarantee as well as the product liability in general expires if the instructions stated in this manual are not followed. This is also the case if unauthorized maintenance is carried out or if technical changes or additions are made without permission of Van Raam.

## Frame number

The frame number is printed on the sticker.  
This sticker is located on the frame.  
An example is shown here.



XXXXXXXXXXXX  
www.vanraam.nl

Position sticker:

Twinnny & Kivo



On the back of the saddle tube

Twinnny Plus & Kivo tricycle



On the back of the saddle tube



|                 |          |
|-----------------|----------|
| Date            | .....    |
| Manufacturer    | Van Raam |
| Type of bicycle |          |
| Frame number    |          |
| Key number      |          |

Here you have space to take notes or write down the maintenance on your bike:



